Section 1. Registration Information

Source Identification

Facility Name:	Yuma Desalting Plant
Parent Company #1 Name:	U.S. Bureau of Reclamation
Parent Company #2 Name:	

Submission and Acceptance

Submission Type:	Re-submission
Subsequent RMP Submission Reason:	Process no longer covered (source has other processes that remain covered) (40 CFR 68.190(b)(7))
Description:	
Receipt Date:	07-Mar-2013
Postmark Date:	07-Mar-2013
Next Due Date:	07-Mar-2018
Completeness Check Date:	04-Dec-2013
Complete RMP:	Yes
De-Registration / Closed Reason:	
De-Registration / Closed Reason Other Text:	
De-Registered / Closed Date:	
De-Registered / Closed Effective Date:	
Certification Received:	Yes

Facility Identification

EPA Facility Identifier:	1000 0010 5655
Other EPA Systems Facility ID:	

Dun and Bradstreet Numbers (DUNS)

Facility DUNS:	
Parent Company #1 DUNS:	
Parent Company #2 DUNS:	

Facility Location Address

Street 1:	7301 Calle Agua Salada
Street 2:	
City:	Yuma
State:	ARIZONA
ZIP:	85364
ZIP4:	
County:	YUMA

Facility Latitude and Longitude

Latitude (decimal):	32.727222
Longitude (decimal):	-114.707222
Lat/Long Method:	Interpolation - Photo
Lat/Long Description:	Process Unit Area Centroid
Horizontal Accuracy Measure:	2
Horizontal Reference Datum Name:	North American Datum of 1983

Source Map Scale Number:	24000

Owner or Operator

Operator Name:	Maria Ramirez
Operator Phone:	(928) 343-8123

Mailing Address

Operator Street 1:	7301 Calle Agua Salada
Operator Street 2:	
Operator City:	Yuma
Operator State:	ARIZONA
Operator ZIP:	85364
Operator ZIP4:	
Operator Foreign State or Province:	
Operator Foreign ZIP:	
Operator Foreign Country:	

Name and title of person or position responsible for Part 68 (RMP) Implementation

RMP Name of Person:	Mike Biever
RMP Title of Person or Position:	RMP Coordinator
RMP E-mail Address:	MBiever@usbr.gov

Emergency Contact

Emergency Contact Name:	Mike Biever
Emergency Contact Title:	RMP Coordinator
Emergency Contact Phone:	(928) 343-8306
Emergency Contact 24-Hour Phone:	(928) 580-2879
Emergency Contact Ext. or PIN:	
Emergency Contact E-mail Address:	MBiever@usbr.gov

Other Points of Contact

Facility or Parent Company E-mail Address:	
Facility Public Contact Phone:	(928) 343-8100
Facility or Parent Company WWW Homepage Address:	http://www.usbr.gov/lc/yuma/

Local Emergency Planning Committee

LEPC:	Yuma County LEPC

Full Time Equivalent Employees

Number of Full Time Employees (FTE) on Site:	232
FTE Claimed as CBI:	

Covered By

OSHA PSM :	Yes
EPCRA 302 :	Yes

CAA Title V:
Air Operating Permit ID:

OSHA Ranking

OSHA Star or Merit Ranking:

Last Safety Inspection

Last Safety Inspection (By an External Agency) Date:	15-Feb-2013
Last Safety Inspection Performed By an External Agency:	Fire Department

Predictive Filing

Did this RMP involve predictive filing?:

Preparer Information

Preparer Name:	Mike Biever
Preparer Phone:	(928) 343-8306
Preparer Street 1:	Yuma Area Office
Preparer Street 2:	7301 Calle Agua Salada
Preparer City:	Yuma
Preparer State:	ARIZONA
Preparer ZIP:	85364
Preparer ZIP4:	
Preparer Foreign State:	
Preparer Foreign Country:	
Preparer Foreign ZIP:	

Confidential Business Information (CBI)

CBI Claimed:
Substantiation Provided:
Unsanitized RMP Provided:

Reportable Accidents

Reportable Accidents: See Section 6. Accident History below to determine if there were any accidents reported for this RMP.

Process Chemicals

Process ID:	1000040708
Description:	Chlorine Process
Process Chemical ID:	1000048932
Program Level:	Program Level 3 process
Chemical Name:	Chlorine
CAS Number:	7782-50-5
Quantity (lbs):	12000
CBI Claimed:	
Flammable/Toxic:	Toxic

Process NAICS

Process ID:	1000040708
Process NAICS ID:	1000041131
Program Level:	Program Level 3 process
NAICS Code:	22131
NAICS Description:	Water Supply and Irrigation Systems

Section 2. Toxics: Worst Case

Toxic Worst ID: 1000033579

Percent Weight:	
Physical State:	Gas liquified by pressure
Model Used:	EPA's RMP*Comp(TM)
Release Duration (mins):	10
Wind Speed (m/sec):	1.5
Atmospheric Stability Class:	F
Topography:	Rural

Passive Mitigation Considered

Dikes:	
Enclosures:	
Berms:	
Drains:	
Sumps:	
Other Type:	

Section 3. Toxics: Alternative Release

Toxic Alter ID: 1000035528

Percent Weight:	
Physical State:	Gas liquified by pressure
Model Used:	EPA's RMP*Comp(TM)
Wind Speed (m/sec):	3.0
Atmospheric Stability Class:	D
Topography:	Rural

Passive Mitigation Considered

Dikes:	
Enclosures:	Yes
Berms:	
Drains:	
Sumps:	
Other Type:	

Active Mitigation Considered

Sprinkler System:	
Deluge System:	
Water Curtain:	
Neutralization:	
Excess Flow Valve:	
Flares:	
Scrubbers:	
Emergency Shutdown:	
Other Type:	

Section 4. Flammables: Worst Case

No records found.

Section 5. Flammables: Alternative Release

No records found.

Section 6. Accident History

No records found.

Section 7. Program Level 3

Description

Chlorine Process

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000042001
Chemical Name:	Chlorine
Flammable/Toxic:	Toxic
CAS Number:	7782-50-5
Prevention Program Level 3 ID:	1000035537
NAICS Code:	22131

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	01-Mar-2013

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	09-Aug-2012

The Technique Used

What If:	
Checklist:	
What If/Checklist:	Yes
HAZOP:	
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	31-Dec-2012

Major Hazards Identified

Toxic Release:	Yes
Fire:	Yes
Explosion:	
Runaway Reaction:	
Polymerization:	
Overpressurization:	
Corrosion:	Yes
Overfilling:	
Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	Yes
Floods (Flood Plain):	Yes

Tornado:	
Hurricanes:	
Other Major Hazard Identified:	Container damaged

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	Yes
Emergency Power:	Yes
Backup Pump:	
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	Yes
Excess Flow Device:	
Quench System:	
Purge System:	Yes
None:	
Other Process Control in Use:	Vacuum system

Mitigation Systems in Use

Sprinkler System:	
Dikes:	
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	Yes
Neutralization:	
None:	
Other Mitigation System in Use:	

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	
None:	
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	Yes
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	

Installation of Perimeter Monitoring Systems:

Installation of Mitigation Systems:

None Recommended:

None:

Other Changes Since Last PHA or PHA Update:

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	29-Jul-2013

Training

Training Revision Date (The date of the most recent review or revision of training programs):	01-Mar-2013

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	Vendor training

The Type of Competency Testing Used

Written Tests:	
Oral Tests:	Yes
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	01-Mar-2013
Equipment Inspection Date (The date of the most recent equipment inspection or test):	01-Mar-2013
Equipment Tested (Equipment most recently inspected or tested):	chlorine system

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	31-Dec-2012
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	01-Mar-2013

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	28-Oct-2013
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	28-Apr-2014

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	28-Oct-2013

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	28-Oct-2013

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	28-Oct-2013
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	28-Oct-2013

Confidential Business Information

CBI Claimed:	

Section 8. Program Level 2

Section 9. Emergency Response

Written Emergency Response (ER) Plan

Community Plan (Is facility included in written community emergency response plan?):	Yes
Facility Plan (Does facility have its own written emergency response plan?):	Yes
Response Actions (Does ER plan include specific actions to be taken in response to accidental releases of regulated substance(s)?):	Yes
Public Information (Does ER plan include procedures for informing the public and local agencies responding to accidental release?):	Yes
Healthcare (Does facility's ER plan include information on emergency health care?):	Yes

Emergency Response Review

Review Date (Date of most recent review or update of facility's ER plan):	01-Mar-2013

Emergency Response Training

Training Date (Date of most recent review or update of facility's employees):	01-Mar-2013

Local Agency

Agency Name (Name of local agency with which the facility ER plan or response activities are coordinated):	Yuma Rural/Metro Fire Dept
Agency Phone Number (Phone number of local agency with which the facility ER plan or response activities are coordinated):	(928) 726-7737

Subject to

OSHA Regulations at 29 CFR 1910.38:	Yes
OSHA Regulations at 29 CFR 1910.120:	Yes
Clean Water Regulations at 40 CFR 112:	
RCRA Regulations at CFR 264, 265, and 279.52:	
OPA 90 Regulations at 40 CFR 112, 33 CFR 154, 49 CFR 194, or 30 CFR 254:	
State EPCRA Rules or Laws:	Yes
Other (Specify):	

Executive Summary

Introduction

The Yuma Desalting Plant (YDP) is located at 7301 Calle Agua Salada in Yuma, Arizona and is owned and operated by the Bureau of Reclamation (BOR). The YDP stores and uses chlorine as a necessary part of the water treatment process. Using and storing chlorine can be a hazard if it is not handled properly. YDP personnel take their safety obligations in storing and using chlorine seriously and ensure that operators involved in the use of chlorine are trained and knowledgeable in the chemical hazards associated with their jobs. The following describes what could happen if there were to be an accident, some of the steps the BOR takes to ensure a safely operating plant, and how chemical emergencies are handled. The YDP's Risk Management Plan (RMP) complies with the U.S. Environmental Protection Agency (EPA) Risk Management Program for Chemical Accidental Release Prevention under Title 40 of the Code of Federal Regulations (CFR), Part 68.

Accidental Release Prevention and Emergency Response Policies

The YDP accidental release prevention policy involves a unified approach that integrates proven technology, staff training on operation and maintenance practices, and tested management system practices. Applicable federal procedures and state of Arizona procedures are adhered to, including key elements such as training, systems management, and emergency response procedures.
The BOR recognizes the responsibility to make the environment, community, and employee safety a primary part of daily concerns. The BOR is committed to being a responsible member within the community by giving top priority to operating in a safe and environmentally sound manner. The BOR is dedicated to developing an environmentally responsible energy resource compatible with community needs. The prevention of accidents and protection of its employees, property, and the general public are essential to the efficient and successful completion of every project undertaken by the BOR. The BOR requires active injury and illness prevention as an important element of production on a daily basis.

Facility and Regulated Substances Information

The YDP is located in the northwest quarter of Yuma, near the California and Mexico borders. The YDP is a government-owned, contractor-operated facility and includes a Production Plant and Water Quality Improvement Center (WQIC). At full capacity, the Production Plant can produce over 72 million gallons of product water per day, the largest brackish water reverse osmosis desalting plant in the U.S. However, the Production Plant has not operated since March 2011. The WQIC, which is an advanced water treatment research facility including an approximately 1/100th scale version of the Production Plant called Pilot System 1 (PS-1), is currently operational and provides treated water to the YDP for potable, service, and fire protection uses.
YDP uses chlorine to provide a chlorine solution as a disinfectant, necessary to promote the destruction of algae, bacteria, micro-organisms, and other aquatic life due to chlorine's strong oxidizing power. Gaseous chlorine is supplied to the chlorine system for the WQIC (PS-1) plant chlorination system by direct feed through a vacuum regulator from one-ton containers. The maximum quantity of chlorine stored at the YDP is 12,000 pounds. This quantity exceeds the EPA Risk Management Program threshold of 2,500 pounds; therefore, the chlorine process is subject to the EPA Risk Management Program regulations and qualifies for Program 3.

Summary of the Five-Year Accident History

In the past five years, the YDP has had no accidents involving chlorine that have resulted in deaths, injuries, or significant property damage onsite, or known offsite deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage.

Summary of the Emergency Response Program

The BOR has developed a written Emergency Response Plan, which establishes emergency response procedures designed to protect personnel, limit damage to the environment, and ensure that proper notifications go to the appropriate agencies. The Emergency Response Plan details the response procedures, protective measures, levels of training, regulatory notification requirements, and post-incident investigation procedures. The Emergency Response Plan also identifies emergency assembly areas, evacuation routes, and related procedures to be undertaken during emergency scenarios by YDP employees. The Emergency Response Plan has been coordinated with the Yuma Rural/Metro Fire Department, which is a member of the Local Emergency Response Planning Committee (LEPC).

Summary of the Accidental Release Prevention Program and Chemical-Specific Prevention Steps

The YDP's accidental release prevention program is in compliance with federal Process Safety Management (PSM) requirements and is based on the following key elements:
A detailed management system and clear levels of responsibilities and team member roles
Comprehensive process safety information that is readily available to staff, emergency responders, and contractors
A comprehensive preventive maintenance program
Performance of process hazard analyses (PHA) with operation and maintenance staff participation and review
Use of state-of-the-art process and safety equipment
Use of accurate and effective operating procedures, written with the participation of the operators
A high level of training for the operators and maintenance staff
Implementation of an incident investigation, inspection, and auditing program using qualified staff

The YDP's chemical-specific prevention steps include availability of self-contained breathing apparatus (SCBA), awareness of the hazardous and toxic properties of chlorine, and presence of chlorine detectors and alarms.
The PSM program for the chlorine process is briefly summarized below.

Process Safety Information

The YDP compiles and maintains up-to-date safety information related to the regulated substance, process, and equipment. This information is used to identify and understand the hazards in operating the chlorine process. The safety information includes material safety data sheets (MSDS), a process description, maximum intended inventory, safe operating limits, equipment specifications, and codes and standards used to design, build, and operate the system. The BOR also has procedures in place that are triggered to update process safety information in the event of a major change that would make existing information inaccurate. Additionally, the chlorine process is equipped with a number of safety features designed to prevent accidental releases. Such safety devices include leak detectors and alarms and emergency shower/eyewash stations.

Process Hazard Analysis

The initial chlorine PHA was conducted in 2006 using the What-if/Checklist method and evaluated the use of chlorine supplied by 150-pound cylinders, one-ton containers, and 90-ton railcars. A PHA revalidation was conducted in 2009 for changes to the chlorine process that allowed the use of 20-ton tank trailers. The most recent PHA revalidation occurred in 2012 for changes made to the chlorine process following shutdown of the Production Plant. The 2012 PHA revalidation evaluated the use of one-ton chlorine containers in the WQIC (PS-1) process. The PHA will be revalidated again or updated within a five-year period or whenever there is a major change in the process.

Operating Procedures

The BOR maintains up-to-date and accurate written operating procedures that provide clear instructions for the chlorine process. The operating procedures include initial startup, normal operations, temporary operations, emergency shutdown operations, normal shutdown, startup following normal and emergency shutdown, consequences of deviations, steps required to correct or avoid deviations, and equipment inspections. Operating procedures will be developed and put in place prior to any new process equipment coming online or changes made in the handling of chlorine equipment.

Training

The BOR ensures that each employee newly assigned to the process is trained and tested to be competent in the operating procedures listed pertaining to their duties. YDP employees presently involved in operating and maintaining the chlorine process have been trained to acquire the knowledge, skills, and abilities to safely carry out their duties and responsibilities, including emergency response.
The YDP training program includes, at a minimum, the following elements: (1) process safety information, (2) process technology and process equipment, including safety systems, (3) maintenance procedures, (4) operating procedures for the chlorine system, and (5) hazard communication. Refresher training is provided at least once every three years to each employee operating the

covered process to ensure that the employee understands and adheres to the current operating procedures. In addition, the BOR ensures that operators are trained in any updated or new procedures prior to startup of a process after a major change, as indicated in the Management of Change (MOC) procedures.
The BOR prepares and retains records of initial and refresher training and provides certification of the records, which includes the identity of the employee, the date of training, the training content, documentation of the employee understanding, and the signature of the person(s) administering the training.

Contractors

The BOR has procedures and policies in place that ensure that only contractors with good health and safety programs are selected to perform work on and around the chlorine process and that the contractors are properly prepared to safely complete the work. These procedures are intended for visiting subcontractors of the current operations and maintenance contractor (KCorp Technology Services, Inc.) or other government contractors hired to perform work on and around the chlorine process. The BOR holds contractor safety briefings before allowing the contractor to perform work on or adjacent to the chlorine process. These safety briefings inform contractors of the hazards, access limitations, safe work practices, and emergency response procedures associated with the chlorine process.

Pre-Startup Safety Review

The BOR has procedures in place to ensure that a pre-startup safety review is conducted prior to starting a new covered process or prior to making modifications to the chlorine system that require implementation of the MOC procedures. These procedures ensure that no new or significantly modified process will start-up and no regulated substances will be introduced into such a process prior to the pre-startup safety review.

Mechanical Integrity

The BOR implements a mechanical integrity program to ensure the continued integrity of the equipment in the chlorine process. This mechanical integrity program addresses equipment testing and inspection, preventive maintenance schedules, personnel training, and correction of equipment deficiencies. Preventive maintenance is performed according to equipment manufacturers' recommendations or industry standards. Work orders are stored electronically, to be completed by YDP staff as the schedule permits.

Hot Work Permits

The BOR requires employees and contractors to employ safe work practices when performing hot work in, on, or around the covered process. The BOR uses a permitting program to ensure hot work is conducted safely on or near a process involving chlorine.

Management of Change

The BOR provides a system and approach to maintain and implement any MOC or modifications to equipment, procedures, chemicals, and processing conditions. This system allows YDP staff to identify and review safety hazards or provide additional safety, process, or chemical information to existing data before the proposed change would either compromise system safety or need training to be completed.

Compliance Audits

Compliance audits will be completed and documented for the covered process at least once every three years. For each audit performed, the BOR will assemble a compliance audit team that includes at least one person knowledgeable in the chlorine process and an audit leader knowledgeable in the EPA Risk Management Program requirements and audit techniques. This team will evaluate the prevention program elements and their implementation for compliance with the EPA Risk Management Program regulations and whether the prevention program is sufficient to help ensure safe operation of the process. The results of the compliance audit will be documented, recommendations will be resolved, and appropriate enhancements to the prevention program will be implemented.

Incident Investigation

The BOR investigates all incidents that resulted in or could reasonably have resulted in a release of chlorine so that similar accidents can be prevented. In such instances, an investigation team will be assembled and an investigation will be initiated within 48 hours of the incident. The results of the investigation will be documented, recommendations will be resolved, and appropriate process enhancements will be implemented. Information found during the investigation will be reviewed by affected staff and used to revise operating and maintenance procedures.

Planned Changes to Improve Safety

A number of studies and inspections have been conducted to improve the safety of the chlorine process at the YDP, including the PHA conducted in 2006 and the PHA revalidations conducted in 2009 and 2012. During these studies and inspections, several additional risk reduction measures were recommended to improve safety at the YDP. Details of the recommendations from each PHA can be found in the RMP. Some of the recommended risk reduction measures include confirming operating, maintenance, and safety procedures, confirming the performance of daily inspections, and evaluating the fire alarm system. The implementation of these recommendations will further improve the safety of the chlorine system.